Status Report from SAS 2.0 Zoning Subgroup (05-277r0)

Heng Liao

SAS 2.0 Zoning Subgroup Conference Calls

- T10 Plenary in April 2005 (Okalahoma City)
  - Presented the original SAS 2.0 zoning proposal (05-144r0/1, 05-186r0), introduced the basic concepts
  - T10 Plenary approved the request to start the SAS2.0 zoning subgroup conference call

- Two SAS 2.0 Zoning Conference calls were held to date
  - Around 20 people joined the each meeting
  - The majority of the discussions were based on the SAS 2.0 zoning proposal (05-144)
    - The subgroup seemed to agree this is a good starting point
    - No major opposition to the basic architecture, the frame format, and the concept for zone management
    - Constructive comments has helped to improve the proposal (captured in 05-144r2/3/4)
  - New independent contribution (05-235r1) proposed enhancement to the (05-144)

1ˢᵗ SAS Zoning conference call (May 13,2005)

- 20 people joined the call
- Heng Liao presented 05-186r1 (slides)and 05-144r2 (document)
  - Clarify how to handle zone reassignment after device hot plug and device relocation
  - Impact of zone management on traffic – non-disruptive zone reconfiguration
  - How to ensure consistent zone permission table is propagate when multiple supervisor update the table concurrently – election of supervising expander
  - SMP commands improved to support supervising expander election
  - The key points above were well received by the group
- Meeting minutes published (05-195r0)

2nd SAS Zoning conference call (June 16,2005)

- 13 people joined the call
- Heng Liao presented 05-144r3 (document)
  - Added supervising allowed expander attribute to give supervisor control over the candidacy of the supervising expander
  - The group suggested expanding the supervising allowed attribute to multiple bit priority field to control the preference of supervising expander candidates
  - Many editorial suggestions
- Ed D'Avignon presented 05-235r1
  - Suggestion to enhance SAS 2 zoning by support zoning aware end device (that is not trusted)
  - The group recommend for Ed to propose a usage model to support the enhancement suggestion
- Meeting minutes published (05-250r0)

Summary

- Progress were made in SAS 2.0 zoning
  - 05-144 has been used as the general basis for SAS 2.0 zoning discussion
  - Suggested enhancements were captured in the latest SAS 2.0 zoning proposal (05-144r4)
  - New contributions were discussed in the Subgroup

- The group agreed for
  - Reporting the status/progress to July T10 SAS Prot WG
  - Continue to have conference calls after July T10 plenary meeting

Highlights of 05-144r4

- ## Latest SAS 2.0 Zoning proposal
  - Capture changes suggested by the subgroup from the 2nd conf call
- ## Key changes:
  - Add Supervising Priority (2-bit) to control the priority for supervising expander election
  - Extensive editorial changes suggested by the subgroup:
    A) The use of order list.
    B) Change "fabric" to "service delivery subsystem"
    C) Reference to PHY_RDY state should be modified to use messages or state defined in SAS 1.1 PHY layer state machine.
    D) Any time a device changes group, broadcast message should be sent to all the affected groups (global, or at minimal, both the original SGID and the new SGID)
    E) Rather than describing how to calculate the expander change counter and Phy change counter, just have a clear definition on the counter values and who is allowed to see them.
    F) In the CONFIGURE ZONE PERMISSION command, the OPERATION field should be expanded to 4 bits with reserved code points.
    G) Remove the description on "all trusted Phy shall be assigned to group 127".
    H) Use tables for definition of the code points of a multi-bit fields
    I) All Ignored in the new commands shall be changed to reserved. Do not use ignored fields defined in SAS1.1